DLS
ELECTRONIC SYSTEMS, INC.

PLEASE NOTE!

D.L.S. will be moving about July 1, 1995 to
1250 Peterson Dr., Wheeling, IL 60090
Please verify mail, shipping & test location after July 1st

10350 DEARLOVE ROAD, GLENVIEW, ILLINOIS 60025-3668 • PHONE 708•699•9060 until July 1, 1995

TO: FCC COMMISSION

708-537-6400 after July 1, 1995

SUBJECT: NOTICE OF PROPOSED RULE
ET DOCKET NO. 95-14
FCC 95-46
AUTHORIZATION OF MODULAR PERSONAL COMPUTERS

I find it difficult to conceive of a procedure which will ensure compliance using the modular computer approach. The understanding of many assemblers is so limited that they often don't even understand how the computer works, yet alone the EMC aspects of a complex system.

Assuming it can be done, I believe some of the following must be considered:

1. Testing of the cpu boards as a stand alone with a limit, a certain maximum above the assembly limit, say 10 dB.

2. The cabinet must then be shown to demonstrate an amount of shielding over the frequency range of its intended uses with at least the amount of attenuation the board exceeds the limit plus a 5 dB margin: this proof of attenuation can be demonstrated using a standard oscilator and circuit board. e.g. a given length & width, thus loop area. Logic family: e.g. HC, etc. and clock frequency would need to be demonstrated.

3. The CPU board must then be shown to comply in a cabinet whose minimum attenuation would be required for future cabinets used for final assemblies. Here cables would be connected and any of the fixes, e.g. fingers on keyboard, etc. would need to be used in the final assembly.

4. Power supplies have always presented a path for energy to leave a PC system. When power supplies are designed separately from a system, energy will radiate from the power cords unless precautions are designed in. Some means would need to be demonstrated which would guarantee compliance of the power supply when installed in a PC. Possibly the same way as 2 above.

Perhaps in conjunction with the verification procedure for personal computers and the requirements of test labs to be NVLAP approved, a step further should be made where these labs be given special authority such as in the EU where many labs have been given competent body status after meeting specific criteria. These labs and the individuals would be responsible for defining the testing procedures and establishing the general rules for how computers can be assembled in the future as well as special situations which in the past would require the FCC to be involved. This would increase the probablities of compliance. If this procedure is used, it is important as they have found in the EU, that these competent bodies be in touch with each other and have a common goal and approach.

In summary, I believe the modular approach is going to be difficult at best. The only possibility of its success is:

1. test cpu boards.
2. test cabinet and power supplies for attenuation.
3. test complete assemblies at least once and then have this all overviewed by a "competent body established through NVLAP" or reviewed by the FCC.

Respectfully Yours,

Donald L. Sweeney
President and
Sr. EMC Engineer EMC 01209 NE
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No. of Copies rec'd 0+19
List A B C D E

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